

Assessment of Nurses Knowledge toward Vitamins and Minerals for Patients with Chronic Renal Failure at Al-Hussain Teaching Hospital in Al- Nasiriyah City

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abstract

Objectives of Study : To Assess of nurses knowledge toward vitamins and minerals for patients with chronic renal failure. to find a correlation among knowledge of nurses with socio-demographic attributes.

Methodology: A descriptive study is carried out on non-probability sample of (100) nurses who work on dialysis units and dialysis wards at Al-Hussain Teaching hospital in Al-Nasiriyah city. The research was carried out over an interval of September 15th 2020 to March 15th 2021. In order to achieve the study's goals, an interview questionnaire is used as a research instrument.

Results: The research findings are as follows: the bulk of the current study (64%) were female and the remaining were male. The highest percent of the study sample (29 percent) were within age group (25- 29) years old. In regard to the subject marital status, the majority of the sample were married, and they accounted for (56 %) of the whole sample. Relative to their professional qualification, the greater number of nurses were with Bachelor's degree in nursing and they accounted for (47 %). Concerning years of experience, the majority of the sample (72%) having 3 - 5 years of experience in working field.

Recommendation: The researchers recommends conducting an educational program for nurses about vitamins and minerals of chronic renal failure patients. The researcher recommends conducting training courses for nurses on vitamins and minerals for chronic kidney disease. The researcher recommends developing nurses' information by allowing diploma holders to complete their bachelor's studies or higher degrees.

Keyword : Assessment ,Knowledge, Vitamins, Minerals and Chronic Renal Failure

Introduction

Kidney disease can lead to a shorter life expectancy, complications such as heart disease, and

the need for dialysis or other treatments for serious kidney failure. Patients and physicians want find out protective therapies to individuals from renal impairment or heart conditions with the two healthcare professionals besides individuals with renal injury, method of living modification regimen, for example healthy eating plan is essential and necessary toward promote health and welfare in addition allow individuals to one's management as well as renal impairment care. (Palmer, et al, 2017)

Vitamins are biological materials required by a human tissues with little quantities to metabolism, defense, health maintaining with enhanced development, The human tissues are unable to produce it, should be acquired from external sources such as nourishment, bacteria & sun, vitamins may aid to Hormone manufacturing, blood vessels, chemicals of the nervous system also genetic substances, In general, which serve to catalysts, interacting by proteins toward produce metabolically active enzymes which they necessary with daily living responses. In the absence of enzymes, a large number of vital life's responses will go sluggish otherwise stop. (National health service, 2020)

Minerals are inorganically materials necessary in order to human organs function properly, which represent approximately around 4% from adult body mass, a few of them is required at a lot amounts are to be found as macro-elements, such as Na, K, Mg, Cl, The other is required at lesser amounts which they called microelements. (British National Foundation, 2020)

Diet advises and nutrition tutoring are indicated in the avoidance and managing chronic kidney disease (CKD). carried in a base on the stage of CKD, nutrition instruction for patients may be provided in the clinic location by a renal dietitian, general practice dietitian, nephrologist , or a primary health care giver. (Cheryl & Hoang, 2018)

Poor management of vitamins and minerals of CKD patient's head for raise death-rate and morbidity, rapid development of end stage kidney failure, reduced life expectancy, individuals at dialysis who have tubes infected repeated on multiple occasions, undernourishment between people with chronic kidney disease as well as fluid excess. (Sadeghpour, et al, 2019)

SUBJECTS AND METHODS:

The descriptive research design was used for this analysis. A descriptive design analysis is used to learn more about the characteristics of a specific field of study. Their aim is to provide a picture of instances as they naturally occur. This study started from 15th of September 2020 up to 15th March 2021. The study was conducted in Al-Hussain Teaching Hospital for nurses toward vitamins and minerals for patients with chronic renal failure in Al-nasiriyah city. A purposive (non-probability) sample covers (110) nurses who works in the dialysis unit and dialysis wards. (10)

nurses for pilot study, were excluded from the study .

The rest (100) nurses for the study implementation, (64)nurses in dialysis unit and (36) nurses in dialysis wards from both morning and evening shifts who worked in the hospital during the study period, met the study requirements, and decided to participate in the study.

Instrument that Used for Data Collection :

To achieve the objectives, a questionnaire was developed by the researcher and adopted to meet the purpose of the data collection of the research project related to nurses` knowledge of vitamins and minerals toward chronic renal disease at Al-Hussein Teaching Hospital. It consists of two parts: first one involving demographic information, second one involving two items(vitamins , minerals,)

Results

Table (1): Distribution of the Study Sample by their Demographic Characteristics.

Gender	F	%
Male	36	36
Female	64	64
Total	100	100
Age	F	%
20 - 24	21	21
25 – 29	29	29
30 – 34	28	28
35 – 39	14	14
40 – 44	4	4
45 and more	4	4
Total	100	100
Professional qualification	F	%
High school Nursing	16	16

Diploma	34	34
Bachelor`s degree	47	47
High studies	3	3
Total	100	100
Working experience	F	%
Less than 1 year to 2 years	21	21
3 – 5 years	72	72
6 years and more	7	7
Total	100	100

Table (1) indicated that the majority of the study sample (64%) were female and the remaining were male. The highest percent of the study sample (29 percent) were within age group (25- 29) years old. Relative to their professional qualification, the greater number of them were with Bachelor`s degree in nursing and they accounted for (47 %). Concerning years of experience, the majority of the sample (72%) having 3 - 5 years of experience in working field.

Table (2): The Mean of score for Nurses' Knowledge toward vitamins, and their sources for patients with chronic renal failure

No	Items	Frequency			Mean of score	severity
		I know	I am not sure	I do not know		
1	it is possible that patients with chronic kidney failure who have a protein deficiency diagnosed with less than (0.6 g / kg / day) and have phosphorus deficiency less than (800)Mg / day) they are at risk to vitamin B3 deficiency	13	37	50	1.63	M

2	Liver, duck, milk, eggs, mushrooms, spinach, chicken, and enriched grains are all good sources of riboflavin.	22	57	21	2.01	M
3	Folic acid is contained in legumes, orange juice, spinach and other leafy greens, broccoli, and beets, among other foods.	17	40	43	1.74	M
4	The following food sources are naturally rich in B12: liver, beef, chicken, eggs, trout, and salmon	33	40	27	2.06	M
5	Fatty fish, including salmon or sardines, and eggs are rich in vitamin D.	47	31	22	2.55	M
6	Vitamin B 6 is preferred to be given a daily dose of 5 mg	16	34	50	1.66	M
7	Sustain vitamin D levels above 30 ng/mL and Parathyroid Hormone levels within 150 and 300 pg/mL.	11	35	54	1.57	M
8	carnitine can infuse 10 to 20 mg/kg	8	29	63	1.45	L
9	Serum ferritin levels between 100-800 mcg/l	16	22	62	1.54	M
10	Men and women with Chronic kidney disease must intake at least 90 mg/day and 120 mg/day respectively of vitamin K.	20	27	53	1.76	M
11	ESRD Patient Are risky for anemia	37	32	31	2.06	M
12	Total				1.78	M

Severity: H. = High (2.5 - 3), M. = Moderate (1.5 -2.5), L. = Low (1. – 1.5). freq.= frequency.

This table showed that nurses' knowledge toward vitamins for CKD patients were within moderate level of knowledge in all points except in point number eight that was related to carnitine which was presented with low level.

Table (3): The Mean of score for Nurses' Knowledge toward minerals and their sources for patients with chronic renal failure

No	Items	Frequency			Mean of score	severity
		I know	I am not sure	I do not know		
1	Banana and spinach are a rich source of potassium.	29	41	30	1.99	M
2	Preserving serum phosphorus, calcium, vitamin D, and parathyroid hormone levels is critical for preventing renal osteodystrophy	16	32	52	1.64	M
3	Protein foods, milk products, nuts, legumes, cereals, grains, dark cola, chocolate, cocoa, and peanut butter are all high in phosphorus.	14	46	40	1.74	M
4	when the glomerular filtration rate (GFR) falls below 20–30 mL/min, serum magnesium levels rise.	14	33	53	1.61	M
5	ESRD patients should avoid high-sodium foods.	55	25	20	2.35	M

6	calcium intake in metabolic bone disease should be between 8.4 to 9.5 mg/dL	26	25	49	1.77	M
7	potassium concentrations of 3.5 to 5.5 mEq/L	14	28	58	1.56	M
8	sodium intake is 750 mg to 1,000 mg/daily	20	41	39	1.81	M
9	phosphorus levels should be between 3.5 and 5.5 mg\dl	16	36	48	1.68	M
10	Total				1.79	M

Severity: H. = High (2.5 - 3), M. = Moderate (1.5 -2.5), L. = Low (1. – 1.5). freq.= frequency.

This table showed that nurses' knowledge toward minerals were within moderate level of knowledge in all points.

Table (4): Difference between Socio demographic and Nurse's knowledge toward vitamins and minerals

Socio demographic	Nurse's knowledge	
	X ²	P-Value
Age	8.82	0.549
Gender	0.32	0.850
level of education	35.39	0.000
years of experience	31.47	0.002

X²=Chi-square S= significant (P≤ 0.05)

This table showed there is a highly significant relationship between level of education and nurses' knowledge , also there is highly significant between years of experience and nurses`

knowledge.

DISCUSSION:

Discussion of the Sociodemographic variables of the Study Sample

Findings in Table (1) shows that majority of the study sample (64%) were female and the remaining were male. The highest percent of the study sample (29 percent) were within age group (25- 29) years old. Relative to their professional qualification, the greater number of them were with Bachelor`s degree in nursing and they accounted for (47 %). Concerning years of experience, the majority of the sample (72%) having 3 - 5 years of experience in working field. These results come along with Adejumo et al.(2018) who report that Demographic variables of non-Nephrology nurse findings were consistent with the findings of this study. This results is similar to the results obtained from the study done by(Martin et al., 2013) who reported that according to the findings, the majority of the participants in the study were females (96.2%) and males (2.8%), with a total sample of 181 nurses offering nutrition assistance to chronic disease patients.

Discussion of the Study Sample according to their knowledge toward vitamins for patients with Chronic Renal Failure in table (2)

Results in Table (2) presented that nurses` knowledge toward vitamins for chronic renal failure patients were within moderate level of knowledge in all points except in point number eight that was related to carnitine which was presented with low level. This finding agreed with the result obtained from the study done by Halmat et al. (2018) More than half of the nurses in the study were unfamiliar with the following questions: if a large dose of certain vitamins is taken regularly, it may accumulate to a dangerous level in the body, and vitamin, which is not a necessary supplement for chronic renal failure patients. This finding agreed with the result obtained from the study done by Cupisti et al. (2012) who indicated that the prevalence of correct answers to phosphorous knowledge questions was acceptable with relation to the knowledge of other nurse nutrients. These results come inconsistent with Somuah (2012) who reported that staff knowledge and confidence in the management of dietary phosphorus in education for CKD patients were lacking. These results come inconsistent with (Schaller & James, 2005) who reported that B-Complex and pyridoxine were identified as B vitamins by a large percentage of nurses, and Vitamin D was identified as the sunshine vitamin by the majority of nurses.

Discussion of the study Sample according to their knowledge toward minerals for patients with Chronic Renal Failure in table (3)

Findings in Table (3) showed that nurses` knowledge toward minerals were within moderate

level of knowledge in all points. This finding was supported by (Munuo, et al, 2016) who reported that's fewer than half of those surveyed is unable to describe the nutrient that is essential in the treatment of CKD mineral and bone disorders. These results come inconsistent with Emmanuel et al. (2020) who reported that In the case of CKD patients with a risk of electrolyte imbalance, a large proportion of the nurses were correctly responded to consider nutrition.

Discussion of the Correlation between sociodemographic characteristics of the study Sample with their knowledge toward vitamins and minerals of patients with Chronic Renal Failure in table (4).

Showed that (44 %) of the study sample (in which most of them were female) were within moderate level of nurses' knowledge, while the result has indicated that there was no significant relationship between gender and nurses' knowledge at $P \leq .85$), and (15 %) of the study sample (in age group (25 – 29) years old) were within moderate level of nurses' knowledge, while the result has indicated that there was no significant relationship between age and nurses' knowledge at $P \leq .54$), and nurses' knowledge at (31 %) of the study sample have bachelor's degree in nursing within moderate level of nurses' knowledge, while the result has indicated that there was a highly significant relationship between professional qualification and nurses' knowledge at $P \leq .000$), (30 %) of the study sample have 3 – 5 years of experience and within moderate level of nurses' knowledge, while the result has indicated that there was highly significant relationship between working experience and nurses' knowledge at $P \leq .002$). These results agree with Halmat et al. (2018) who indicated that the Correlation among the socio-demographic features of nurses and their level of knowledge. No significant changes were noted between the nurses' gender, age groups and work experience. Women's nurses (33.3%) had higher knowledge compared to male nurses (12.8%); nurses from 26 to 32 years of age, one and three years of dialysis center experience have higher knowledge compared to those from 33 to 39 and 40 to 46 years of age, 12 to 13 years of dialysis center. Differences between professional qualifications have been identified, indicating that a high level of education is significantly correlated to a high nutritional knowledge score of $P < 0.05$. Nurses with a bachelor's degree had a higher knowledge score than other nurses, high school nurses, and those with a diploma.

CONCLUSIONS

1. There was highly significant relationship between professional qualification and nurses' knowledge ($p \leq 0.005$), also there is highly significant between years of experience and nurses' knowledge ($p \leq 0.002$).
- 2- Dialysis nurses had a moderate level of dietary(vitamins and minerals) knowledge in general. High school nurses and nurses with a diploma were poor knowledge than nurses with a bachelor's

degree were had moderate knowledge and high studies were high knowledge.

RECOMMENDATION:

1. The researchers recommends conducting an educational program for nurses about vitamins and minerals of chronic renal failure patients.
2. Teaching and information should be consistent with other disciplines of health care (e.g. physicians, dieticians) in order to reduce the risk of conflicting messages.
3. The researcher recommends conducting training courses for nurses on vitamins and minerals of chronic renal failure.

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